

BLUE EARTH COUNTY HIGHWAY DEPARTMENT

CONSTRUCTION PLAN FOR BITUMINOUS
OVERLAY & AGGR. SHOULDER

COUNTY ROAD NO. 117

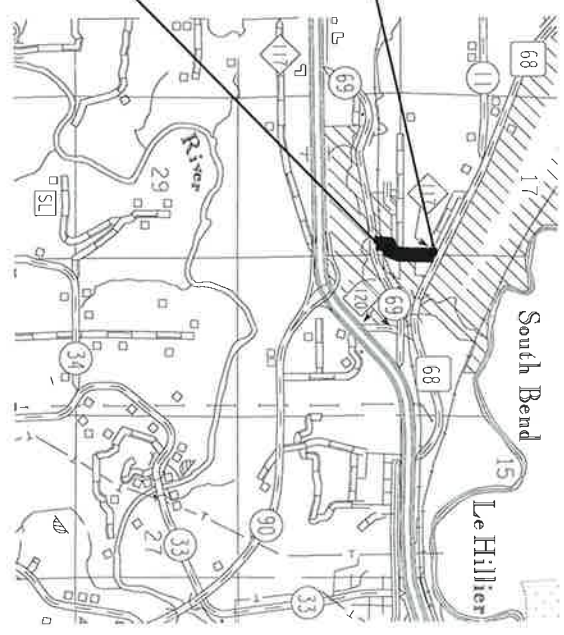


END CO. PROJ. NO. 8170

STA 25+23

BEGIN CO. PROJ. NO. 8170

STA 0+00



BETWEEN: CSAH 69 AND T.H. 68
FROM: A PT. 870' S. AND 403' W. OF THE NW
COR. OF SEC. 20-108-27
TO: A PT. 1307' N. OF THE SE. COR OF
SEC. 17-108-27

GROSS LENGTH 2,523.00 FEET 0.478 MILES
BRIDGE LENGTH 000.00 FEET 0.000 MILES
NET LENGTH 2,523.00 FEET 0.478 MILES

DESIGN DESIGNATION

ADT (Current Year) 432 2014
ADT (Future Year) 638 2034
ADT (Heavy Commercial)
ESAL 213,000
7 TON DESIGN
DESIGN SPEED 40 MPH
DESIGN SPEED NOT ACHIEVED AT:
SOIL FACTOR 130
SHOULDER WIDTH 2'
STOPPING SIGHT DISTANCE BASED ON
3.5' HEIGHT OF EYE
0.5' HEIGHT OF OBJECT

GOVERNING SPECIFICATIONS

THE 2005 EDITION OF THE MINNESOTA DEPARTMENT
OF TRANSPORTATION'S "STANDARD SPECIFICATIONS
FOR CONSTRUCTION" SHALL GOVERN.

PLAN NOT TO SCALE

ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND ORDINANCES WILL BE
COMPLIED WITH, IN THE CONSTRUCTION OF THIS PROJECT.
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED
BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED
PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Alan Forsberg
COUNTY ENGINEER
ALAN FORSBERG

DATE 11 Mar 14 LIC. No. 14720

CO. PROJ. NO. 8170 SHEET NO. 1 OF 6 SHEETS

ESTIMATED QUANTITY

ITEM NO.	ITEM	UNIT	CR # 117	NON PART.	TOTAL
(1)	2118.501 AGGREGATE SURFACING, CL-2 (M)	TON	56	0	56
(1)	2221.501 AGGREGATE SHOULDERING, CL-1 (M)	TON	134	0	134
(1)	2232.501 MILL BITUMINOUS SURFACE	SQ YD	256	0	256
(1)	2360.501 TYPE SP 19.0 WEARING COURSE MIX (2.B)	TON	694	0	694
(2)	2580.501 TEMPORARY LANE MARKING	LIN FT	202	0	202

(1) BASIS OF PAYMENT SPECIFIED IN SPEC. 1903 SHALL BE MODIFIED TO PRECLUDE ANY PRICE ADJUSTMENT FOR INCREASED OR DECREASED QUANTITIES.
 (2) PLACED ON EVERY LIFT, REMOVED BEFORE NEXT LIFT AND PRIOR TO STRIPING.

CERT. BY Alan Bowling PROFESSIONAL ENGINEER LIC. NO. 14720 MAR. 10, 2014 CO. PROJ. NO. 8170 SHEET NO. 2 OF 6 SHEETS

BASIS FOR PLANNED QUANTITIES

AGGREGATE SHOULDERING, & SURFACING
COMPACTED DRY DENSITY - 140 LBS. PER CU. FT.

BITUMINOUS SURFACE

BITUM. MAT'L FOR TACK COAT WILL BE INCIDENTAL.

BITUM. MAT'L FOR WEAR COURSE AC (PG 58-28) 5.8% BY WEIGHT.

BITUM. COURSES, 110 LBS. PER 1" / SQ. YD.

THE FOLLOWING STANDARD PLATES AS APPROVED BY THE FHWA SHALL APPLY

STANDARD PLATES	
PLATE NO.	DESCRIPTION
80001	STANDARD BARRICADES

SHLD. & SURF. QUANTITIES
ROAD # CR 117
PROJECT # CO. PROJ. No. 8170

LOCATION	LENGTH FEET	AVER WIDTH FEET	DEPTH INCHES	AGGR. SHLD. TON	AGGR. SURF. TON
SHOULDER CL-1M					
STA 0 + 0 TO STA 25 + 23 RT	2523	2	2	60	
STA 0 + 0 TO STA 25 + 23 LT	2523	2	2	60	
MATERIAL FOR FIELD ENTRANCES					
				14	
AGGR. SURFACING CL-2 (M)					
6 DRIVEWAYS @	7 TONS				42
2 INTERSECTIONS @	7 TONS				14
TOTAL				134	56

P-BITUM4410MCR 117\117 QUANTITIES 46/A

CR 117 SUPERPAVE BITUM. CALCULATIONS

LOCATION	LENGTH FEET	AVER WIDTH FEET	DEPTH INCHES	WEAR TON
BITUM. WEAR				
STA 0 + 0 TO STA 3 + 41	341	23	1.5	72
STA 3 + 41 TO STA 7 + 14	373	24	1.5	82
STA 7 + 14 TO STA 8 + 17	103	23	1.5	22
STA 8 + 17 TO STA 10 + 74	257	24	1.5	57
STA 10 + 74 TO STA 25 + 23	1449	23	1.5	305
2 INTERSECTIONS @	30 TONS			60
6 DRIVEWAYS @	15 TONS			90
2 MAILBOX PADS @	175 LENGTH	350	2	1.5
TOTAL				694

P-BITUM4410MCR 117\117 QUANTITIES 46/A

MILL BITUM. SURFACE

STATION TO STATION	LOC.	LENGTH	WIDTH	SQ.YD.
0 + 0 TO 1 + 0	CL	100	23	256
TOTAL				256

NOTES:
 START AT THE ENDING STA OF THE JOB
 AT 1.5" DEEP AND TAPER OUT 100' TO 0"

QUANTITIES

CERTIFIED BY

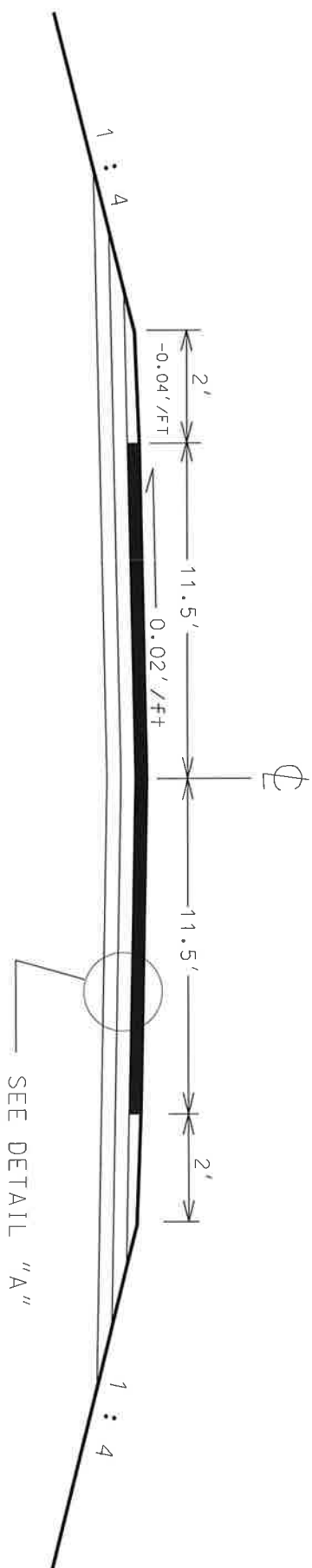
Alan Foralung

LIC. NO. 14720 MAR. 10, 2014

CO. PROJ. No. 8170 SHEET 4 OF 6 SHEETS

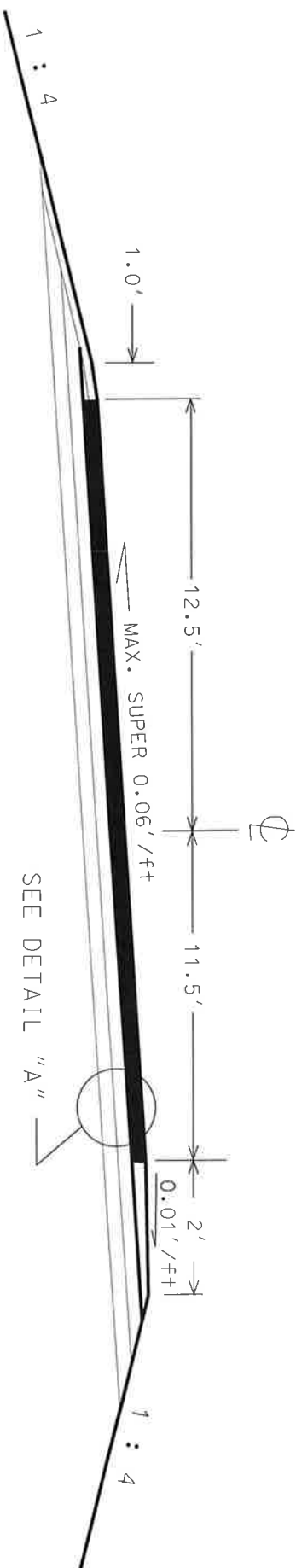
TYPICAL SECTION

STA	0 + 00	TO STA	3 + 41
STA	7 + 14	TO STA	8 + 17
STA	10 + 74	TO STA	25 + 23

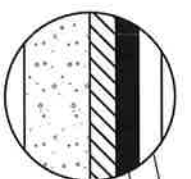


TYPICAL CURVE SECTION

STA 3+41 TO STA 7+14
STA 8+17 TO STA 10+74



DETAIL "A"



- 1.5" SP WEARING COURSE MIXTURE (2360)
- INPLACE 2" WEARING COURSE MIXTURE (2331)
- INPLACE 2" BINDER COURSE MIXTURE (2331)
- INPLACE 6" AGGR. BASE CL-5 (2211)

CERT. BY

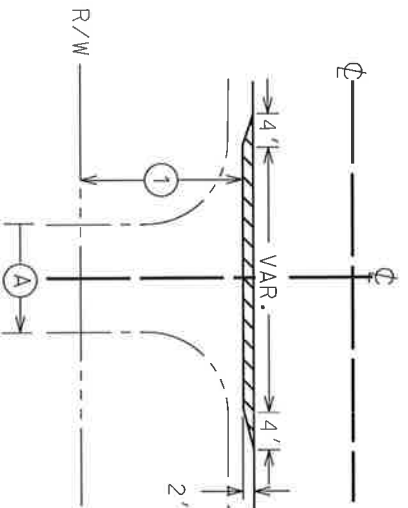
Alan Bowling
PROFESSIONAL ENGINEER

LIC. NO. 14720 MAR. 10, 2014

CD. PROJ. NO. 8170 SHEET NO. 5 OF 6 SHEETS

BITUMINOUS APPROACHES AND ENTRANCES DETAIL

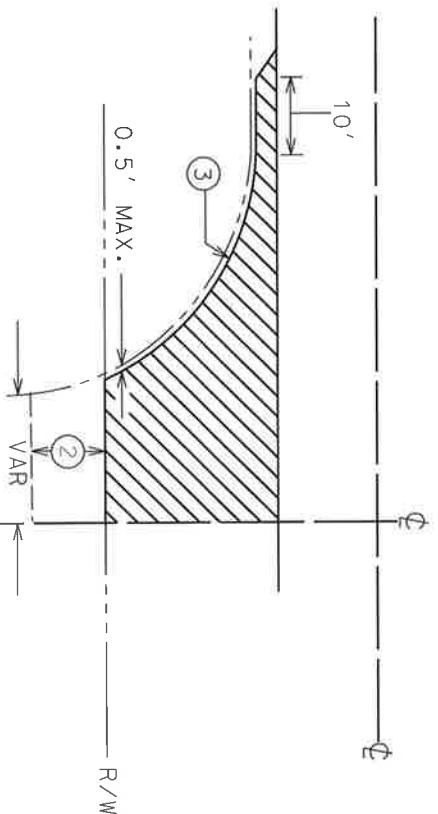
FIELD ENTRANCE



- (A) 20' FOR SINGLE F.E.
28' FOR DOUBLE F.E.

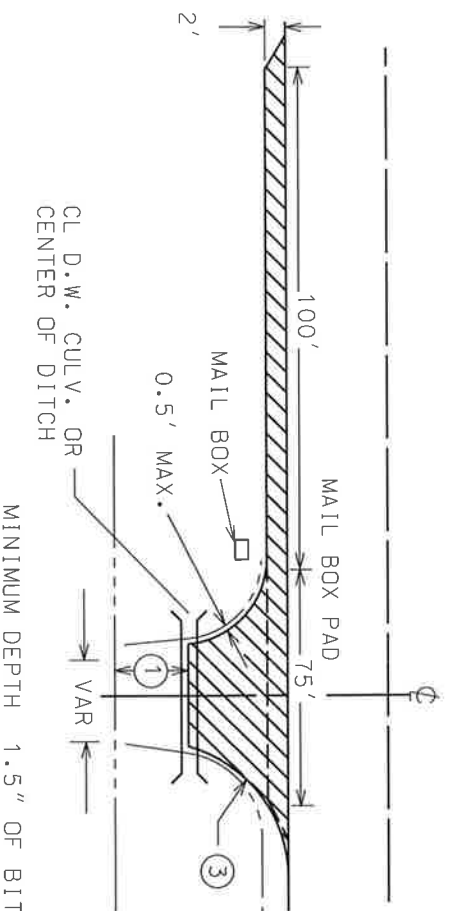
MINIMUM DEPTH 1.5" OF BIT

ROAD APPROACH



MINIMUM DEPTH 1.5" OF BIT

FARM & OTHER ENTRANCES



- (1) FINISH WITH AGGR. MATERIAL FROM EDGE OF BITUM. TO A MIN. OF 10'.
- (2) FINISH WITH AGGR. MATERIAL, MIN. OF 10'.
- (3) BITUM. RADIUS TO BE STAKED IN FIELD BY THE ENGINEER - 25' MIN. (FOR FARM D.W. CONSIDER 30' TO 40' MAX.)

CONTRACTOR WILL BE REQUIRED TO SHAPE & NOTCH ALL DRIVEWAYS, INTERSECTIONS & MAIL BOX PADS THAT ARE NOT ALREADY PAVED AS DIRECTED BY THE ENGINEER. WORK SHALL BE DONE INCIDENTAL TO THE WEAR.

CONTRACTOR WILL BE REQUIRED TO HAND FINISH SHOULDERS ON ALL APPROACHES AND ENTRANCES AS DIRECTED BY THE ENGINEER.

CERT. BY *Alan Forberg* L.I.C. NO. 14720 MAR. 10, 2014

CD. PROJ. NO. 8170 SHEET NO. 6 OF 6 SHEETS